

Patent Claims:

1. System for driver support carrying out assist functions in a motor vehicle for supporting the driver in stopping and starting maneuvers, which are activated depending on a first comparison between at least one driving state parameter and a threshold value and/or based on first actuating signals from an actuating means operable by the driver,

c h a r a c t e r i z e d in that a control unit (Standstill Manager) determines a vehicle state by means of another comparison of at least one driving state variable ( $v$ ) with a predetermined threshold value ( $S_v$ ) and/or based on additional actuating signals of the actuating means, in that the control unit checks whether at least one assist function (Stop & Go, Dynamic Brake Function, Active Vehicle Hold, Traffic Jam Assist, Drive Away Release, Hill Start Assist) is activated, and in that the control unit controls the brake system of the vehicle depending on the detected vehicle state when at least one assist function (Stop & Go, Dynamic Brake Function, Active Vehicle Hold, Traffic Jam Assist, Drive Away Release, Hill Start Assist) is activated.

2. System as claimed in claim 1,

c h a r a c t e r i z e d in that the vehicle state is determined depending on a comparison between the vehicle speed ( $v$ ) and/or the vehicle acceleration with a threshold value ( $S_v$ ).

3. System as claimed in any one of claims 1 and 2,  
c h a r a c t e r i z e d in that the vehicle state is detected depending on an actuating signal of a brake actuating means operable by the driver and/or a driving engine control means.
4. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that an assist function (Stop & Go, Dynamic Brake Function, Active Vehicle Hold, Traffic Jam Assist, Drive Away Release, Hill Start Assist) is activated depending on an actuating signal of a brake actuating means operable by the vehicle driver and/or a driving engine control means, or depending on an actuating signal of an activation means operable by the driver.
5. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that a vehicle state is detected by examining in another vehicle state whether there is a transition condition for a state transition, and a state transition takes place when the transition condition is satisfied.
6. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that the existence of a transition condition is detected by way of the additional comparison between at least one vehicle state variable ( $v$ ) and a predetermined threshold value ( $S_v$ ), and/or by way of the additional actuating signals of an actuating means operable by the driver.

7. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that exactly one vehicle  
state is established which is selected from one of the  
following vehicle states: creep, stop, hold, park,  
secure, start up.
8. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that the brake force is  
increased in the vehicle state 'stop', and the rate of  
change of the brake force is determined depending on the  
activated assist function (Stop & Go, Dynamic Brake  
Function, Active Vehicle Hold, Traffic Jam Assist, Drive  
Away Release, Hill Start Assist).
9. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that brake pressure is  
built up in a service brake system and/or a parking brake  
system is activated in the vehicle state 'stop' in order  
to increase the brake force.
10. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that brake force is  
maintained or a predetermined brake torque is built up  
in the vehicle state 'hold'.
11. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that the brake force  
which must be built up in the vehicle state 'hold' is  
defined depending on a longitudinal inclination angle of  
the vehicle.

12. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that the brake force is  
reduced in the vehicle state 'start-up'.
13. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that, in the vehicle  
state 'start-up', the brake force is reduced depending  
on a result of a comparison between a downhill force and  
a driving power of the vehicle.
14. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that the parking brake is  
activated in the vehicle state 'park'.
15. System as claimed in any one of the previous claims,  
c h a r a c t e r i z e d in that at least one of the  
following assist functions is performed: a function for  
the active stop and go (S & G), a dynamic brake function  
(DBF), a function for the active vehicle hold (AVH), a  
traffic-jam assist function, a function for the  
automatic release of the electric parking brake in a  
start-up maneuver (DAR - (Drive Away Release) and a  
starting assist system (HSA - Hill Start Assist).